Remarks

Regarding the objection to the drawings under 37 C.F.R. 1.83(a), claim 24 has been canceled.

Regarding the rejection of claims 20 and 24 under 35 U.S.C. §112, second paragraph, claim 20 has been amended as suggested by the Examiner and claim 24 has been canceled.

Regarding the rejection of claims 16-22, 27, and 28 under 35 U.S.C. §102(b), Bilton, U.S. Patent No. 3,377,957, does not disclose a hydrodynamic coupling having a connection channel with at least one directional component oriented essentially tangential to the contour of the circulation of the operating medium as called for by Applicants' amended claim 16.

Bilton discloses an undescribed feature above reference numeral 7 in Fig. 1. If this feature is a connection channel, the channel is not directed tangentially to the direction of the circulation of the operating medium that is established between the pump blade wheel and the turbine blade wheel for the purpose of achieving a rinsing effect along the walls of the intermediate space formed between members 1 and 2 and casing 4 (Bilton Fig. 1). In contrast, the feature disclosed above reference numeral 7 is oriented radially relative to the direction of the operating medium circulation. Additionally, the feature is oriented radially to the interior wall of case 4 and the outer surface of member 1. Thus, the operating medium that would pass through such an oriented channel is propelled primarily by the centrifugal force generated by the rotation of the members, centrifuging any impurities suspended by the operating medium against the inner wall of housing 4—specifically the problem sought to be overcome by Applicants' invention as described at page 8, line 27 through page 9, line 8.

Applicants' solution to this problem as called for in claim 16 is described at page 9, lines 8 through 15—specifically, the connection channel has at least one directional component oriented essentially tangential to the contour of the circulation such that a rinsing effect of the operating medium is achieved in the intermediate space, thus providing a partial flow that acts in opposition to the centrifusion of impurities against the wall, and providing the smallest possible resistances and flow speed losses and optimal rinsing effect (page 3, lines 21-26).

Bilton also does not disclose a connection channel forming a straight line progression free of directional changes as called for by Applicants' claim 21. In contrast, the feature located above reference numeral 7 appears to have a portion in the lower right that includes a directional change.

Applicants therefore submit that amended claim 16 and claims 17-22, 27, and 28 which depend therefrom, are not anticipated by Bilton.

Regarding the rejection of claims 16-26, 29 and 30 under 35 U.S.C. §102(b), Mueller, U.S. Patent No. 3,782,514 does not disclose an intermediate space formed between the housing and the pump blade wheel and between the housing and the turbine blade wheel or a connection channel having at least one directional component oriented essentially tangential to the contour of the circulation of the operating medium such that a rinsing effect of the operating medium is achieved in the intermediate space as called for by Applicants' amended claim 16.

Mueller discloses a hydrokinetic device in the form of a hydrodynamic brake, whereby a stator housing connected with the stator in a fixed manner encloses the rotor wheels. Unlike a coupling according to Applicants' amended claim 16, there is no intermediate space formed between the housing and the stator (pump or primary wheel in Applicants' invention), but rather only between the housing and the rotor wheels.

In Mueller, there is a gap between the stator and the rotor wheels forming a ring channel. Both working chambers communicate with a common fluid discharge duct through which the braking fluid is discharged from the chambers. The working chambers communicate via connecting passages 14 with the ring channel. This configuration provides a high flow rate through the braking device, therefore space 15 between the housing and rotor wheels and the ring channel are of a greater size minimizing any rinsing effect. In contrast to Applicants' invention, the channels located above reference numerals 2 and 3 are directed in a radial direction to maximize the flow out common outlet duct 9 from chambers A and B (column 3, lines 58-60) and not for the purpose of forming a partial flow from the working chamber into space 15 for a rinsing effect as called for by Applicants' amended claim 16.

As with Bilton, the channels disclosed in Fig. 1 of Mueller are oriented radially to the housing and thus impurities suspended by the operating medium would be centrifuged against the housing wall rather than a partial flow and rinsing effected provided by connection channels having at least one directional component oriented essentially tangential to the circulation of the operating medium as called for by Applicants' amended claim 16.

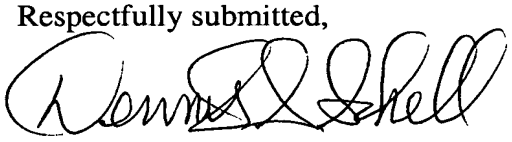
Applicants therefore submit that amended claim 16 and claims 17-23, 25, 26, 29, and 30 which depend therefrom, are not anticipated by Mueller.

In view of the foregoing Applicants respectfully submit that claims 16-23 and 25-30 are now in condition for allowance.

A check is enclosed for the fee required for a three-month extension of time. In the event any additional extension or payment of fee is required, Applicants hereby conditionally petition therefor and authorize any charges to be made to deposit account 02-0385 BAKER & DANIELS.

In the event that any questions remain or any further discussion is required, the Examiner is invited to call the undersigned at (317) 237-1117.

Respectfully submitted,



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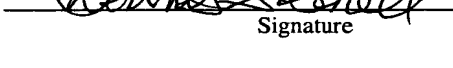
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I HEREBY CERTIFY that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on the date shown below.

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April 9, 2003
Date